

INTERNATIONAL SEARCH REPORT

International Application No

PCT/FR2004/002686

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/34 C07K16/00 A61P31/00 A61P35/00 A61P37/06
C12N5/12 A61K39/395 C07K16/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	WO 01/77181 A (GLACET ARNAUD ET AL) 18 October 2001 (2001-10-18) page 1, line 7 page 3, line 20 - page 5, line 16 table 3	1-25, 27-35, 37-57
Y	----- -/--	36

☒ Further documents are listed in the continuation of box C

☒ Patent family members are listed in annex

* Special categories of cited documents

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *G* document member of the same patent family

Date of the actual completion of the international search

23 March 2005

Date of mailing of the international search report

05/04/2005

Name and mailing address of the ISA.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	SHINKAWA T ET AL: "The absence of fucose but not the presence of galactose or bisecting N-acetylglucosamine of human IgG1 complex-type oligosaccharides shows the critical role of enhancing antibody-dependent cellular cytotoxicity" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 278, no. 5, 31 January 2003 (2003-01-31), pages 3466-3473, XP002965857 ISSN: 0021-9258 cited in the application page 3466, left-hand column page 3471, left-hand column, last paragraph - page 3473, left-hand column, paragraph 1	1-25, 27-35, 37-57
Y		36
X	SHIELDS R L ET AL: "Lack of fucose on human IgG1 N-linked oligosaccharide improves binding to human FcγRIII and antibody-dependent cellular toxicity" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 277, no. 30, 26 July 2002 (2002-07-26), pages 26733-26740, XP002964542 ISSN: 0021-9258 cited in the application the whole document	1-25, 27-57
A	WRIGHT A ET AL: "Effect of glycosylation on antibody function: implications for genetic engineering" TRENDS IN BIOTECHNOLOGY, ELSEVIER PUBLICATIONS, CAMBRIDGE, GB, vol. 15, no. 1, 1997, pages 26-32, XP004016809 ISSN: 0167-7799 cited in the application page 29, left-hand column, paragraph 2 - right-hand column	1-25, 27-57
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	<p>DAVIES J ET AL: "Expression of GnTIII in a recombinant anti-CD20 CHO production cell line: Expression of antibodies with altered glycoforms leads to an increase in ADCC through higher affinity for FC gamma RIII"</p> <p>BIOTECHNOLOGY AND BIOENGINEERING - COMBINATORIAL CHEMISTRY, WILEY, NEW YORK, NY, US, vol. 74, no. 4, 20 August 2001 (2001-08-20), pages 288-294, XP002285964 ISSN: 0006-3592 cited in the application abstract</p>	1-25, 27-57
A	<p>UMANA P ET AL: "ENGINEERED GLYCOFORMS OF AN ANTINEUROBLASTOMA IGG1 WITH OPTIMIZED ANTIBODY-DEPENDENT CELLULAR CYTOTOXIC ACTIVITY"</p> <p>NATURE BIOTECHNOLOGY, NATURE PUBLISHING, US, vol. 17, February 1999 (1999-02), pages 176-180, XP002921620 ISSN: 1087-0156 cited in the application page 176, left-hand column, paragraph 2 - right-hand column, paragraph 2; figure 1</p>	1-25, 27-57
A	<p>EP 0 316 463 A (NORTHWESTERN UNIVERSITY) 24 May 1989 (1989-05-24) page 3</p>	14,36

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FR2004/002686

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: **26**
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see supplemental sheet

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Box II.2

Claim 26

Claim 26, which is dependent on claim 25, relates to a cell characterised in that the mentioned sequence is the sequence NM 001497, AB 024434, NM 003780, BC 053006, XM 242992 or NM 177512. Without any indication as to the meaning of these codes, the subject matter of claim 26 is not clear and thus contravenes PCT Article 6. Owing to the lack of meaning attributed to these codes, no search has been carried out with respect to the subject matter of claim 26.

The applicant is advised that claims relating to inventions in respect of which no international search report has been established cannot be the subject of an international preliminary examination (PCT Rule 66.1(e)). In its capacity as International Preliminary Examining Authority the EPO generally will not carry out a preliminary examination for subjects that have not been searched. This is the case whether or not the claims were amended after receipt of the international search report or in the course of the procedure under PCT Chapter II. If the application is pursued in the regional phase before the EPO, the applicant is reminded that a search can be carried out in the course of the examination under the EPO (cf. EPO Guidelines, C-VI, 8.5) if the defects that led to the declaration under PCT Article 17(2) have been remedied.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0177181	A	18-10-2001	FR 2807767 A1	19-10-2001
			AU 5485801 A	23-10-2001
			CA 2406033 A1	18-10-2001
			EP 1272527 A2	08-01-2003
			WO 0177181 A2	18-10-2001
			JP 2003534781 T	25-11-2003
			US 2003175969 A1	18-09-2003
EP 0316463	A	24-05-1989	EP 0316463 A1	24-05-1989
			HU 48678 A2	28-06-1989
			PL 271659 A1	16-05-1989
			ZA 8708078 A	16-05-1988